PROCEEDINGS OF THE CLUB

Meeting of January 25, 1928

This meeting was held at the Museum Building of the New York Botanical Garden, and was the annual meeting of the Club, this having been adjourned from the regular date, January 10, out of respect to the memory of its late president, Dr. Herbert M. Richards, who died suddenly on January 9, 1928.

The meeting was called to order by Mr. Raymond H. Torrey, Vice-President, at 3:30 P.M. The minutes of the meetings of December 8, December 13 and January 10, were read and approved.

On the motion of Dr. Britton, the Club expressed its appreciation of the splendid services of Mrs. Trelease in securing new members. The following new members were then unanimously elected to membership in the Club:

Miss Hannah Anderson, Lambertville, N. J.

Mr. E. R. T. Berggren, 68 West 71st St., N. Y. C.

Mrs. Arabel Bryan, 125 West 12th St., N. Y. C.

Dr. Harold H. Clum, Hunter College, N. Y. C.

Mr. Norman C. Fassett, Biology Bldg., Univ. of Wisconsin, Madison, Wisconsin.

Dr. Lee M. Hutchins, U. S. Peach Disease Field Laboratory, Fort Valley, Ga.

Mr. Donald Johansen, Dept. of Botany, Stanford Univ., Cal.

Dr. John S. Karling, Schermerhorn Hall, Columbia Univ.

Mr. Darwin S. Levine, 2564 Creston Ave., N. Y. C.

Dr. Clarence Moore, Schermerhorn Hall, Columbia Univ.

Mr. J. A. B. Nolla, Dept. Agriculture & Labor, Insular Experiment Station, Rio Piedras, Porto Rico.

Dr. Morton E. Peck, Dept. of Biology, Willamette Univ., Salem, Oregon.

Mrs. William R. Pitt, Drake Ave., New Rochelle, N. Y.

Prof. J. M. Reade, University of Georgia, Athens, Ga.

Prof. Claude J. Shirk, Neb. Wesleyan University, University Place, Lincoln, Nebraska.

Mr. Abraham Schur, 953 Faile St., Bronx, N. Y. C.

Mr. Morris B. Shoemaker, 202 Lawrence Ave., New Brunswick, N. J.

The following resignations were accepted with regret:

Mr. B. R. Abbott, Mr. W. S. Atwood, Mr. Charles W. Deusner, Dr. F. W. Emerson, Mrs. Helen S. Hill, Mr. Samuel Hirschberg, Prof. G. E. Nichols, Miss Helen E. Saunders, Prof. George G. Scott, Dr. Sheppard Shapiro, Mrs. Marguerite Siegel, Mr. H. E. Thomas, Miss Ruby B. Wilber, Mr. Elba E. Watson.

In accordance with the regular routine of the annual business meeting, the reports of the various officers for the year were read.

The Secretary reported that during the calendar year 1927, mainly through the persistent efforts of the Treasurer, Mrs. H. M. Trelease, 42 members were added to the roster of the Club. During the year, there have been 14 resignations. Four members, Dr. Charles C. Godfrey, Rev. J. H. Lighthipe, Miss Annie Lorenz, and Mrs. Frances Muller have been lost by death. The total enrollment, as of January 1, 1928, was 319.

During the year, we have become affiliated with the American Association for the Advancement of Science, with two representatives on the Council of that organization.

During the year, also, largely through the efforts of Mr. B. R. Abbott, the constitution has been revised according to present-day usage, and codified.

Fourteen regular meetings were held during the year, with a total attendance of 432.

The Treasurer, Mrs. Helen M. Trelease, reported gross receipts of $5515.40, including a balance of $395.71, brought over from 1926. The disbursements in 1927 amounted to $5038.70, leaving a balance of $476.47. The Endowment Fund now totals $4355.14.

Dr. T. E. Hazen, Editor of the Bulletin, reported that Vol. 54 of the Bulletin contained 699 pages and 36 plates. He emphasized the fact that the Club benefits from a very considerable amount of pagination and illustration (notably fine photo-gelatin plates) paid for by contributors.

The Editor of Torreya, Mr. George T. Hastings, reported the publication of the regular six bi-monthly numbers, totaling 119 pages. He spoke of the dearth of articles of local interest and emphasized the need of Torreya for just this sort of material.

The Business Manager, Dr. Michael Levine, reported that the amount received from advertisers was about the same as last year. He expressed the hope that members would coöperate as far as possible by patronizing our advertisers.

Dr. Barnhart, delegate to the Council of the New York Academy of Sciences, reported attendance at the meetings of the Council. Dr. Stout, acting as substitute for Dr. Harper as representative of the Club on the Council of the American Association for the Advancement of Science at the meeting at Nashville in December, 1927, reported attendance at the meeting.

Dr. Gundersen, Chairman of the Field Committee, reported that 35 field meetings with an average attendance of 15, were held during 1927. The largest attendance was 50, at the meeting at Staten Island, June 25, led by Drs. Britton and Hollick. Dr. Gundersen suggested that it might be advisable to select some locality, with provision for over-night shelter, for field headquarters for at least a part of the season.

The Secretary read the report of the committee, consisting of Dr. R. A. Harper, Chairman, Dr. E. S. Burgess and Dr. N. L. Britton, appointed by the Club on January 10, to frame resolutions appreciative of the services of the late Prof. Herbert M. Richards to the Club and to botanical science. The resolutions follow:

Whereas, in view of the lamented death, on January 9, 1928, of Dr. Herbert M. Richards, Professor of Botany in Barnard College since 1898, and President of the Torrey Botanical Club for the past eleven years,

Resolved, that we hereby express our profound grief at his death and our sense of the loss which science has suffered, and in particular the loss sustained by the Torrey Botanical Club,

Resolved, that a copy of these resolutions be furnished to the family,

And Resolved Further, that Professor Hazen be requested to prepare a biographical and bibliographical record of the work of Professor Richards for publication, with a portrait, in the Bulletin of the Club.

These resolutions were approved by vote of the Club members, who rose as a mark of respect to the memory of Dr. Richards.

It was also voted by the Club that the revised and codified constitution and list of members of the Club be printed in Torreya, the details of which were referred to the Editorial Board with power.

With reference to the establishment of a field headquarters for the Club, as proposed by Dr. Gundersen, the following committee was appointed to consider the question: Dr. Denslow, Dr. Gundersen, Mr. Torrey, Mrs. Mitchell and Mr. Beals.

It was also voted that it was the sense of the meeting that the term of the presidency of the Club be limited so that the same person may not hold the office for more than two successive years.

The officers for 1928 were then unanimously elected. The list of officers appears on the inside of the front cover of this issue of Torreya.

Respectfully submitted,
ARTHUR H. GRAVES,
Secretary.

MEETING OF FEBRUARY 14, 1928

This meeting was held at the American Museum of Natural History and was called to order at 8:25 p.m. by President Denslow. The following candidates for membership were unanimously elected:

Mr. Clement Gray Bowers, 3225 Bainbridge Avenue, Bronx, New York.

Mr. Richard Haff, 179 Valentine Avenue, Yonkers, N. Y.

Mrs. Leonard Irving, 29th Street, Whitestone, N. Y.

Mr. C. Victor Jordan, 144-26, 87th Road, Jamaica, N. Y.

Prof. Burton E. Livingston, Laboratory of Plant Physiology, Johns Hopkins University, Homewood, Baltimore, Maryland.

Mr. Victor Schechter, 482 West 150 Street, N. Y. C.

Mr. Erdman West, University of Florida, Gainesville, Florida.

Miss Sara Whitlock, 88 Lawrence Ave., New Brunswick, New Jersey.

The resignation of Mr. H. S. Piatt was accepted with regret. The scientific program of the evening consisted of an illustrated lecture by Dr. L. O. Kunkel entitled, Further Researches in Yellows Diseases. Slides were shown of curly top of beet, yellows of aster and Sonchus, spike disease of sandal, yellows of fall dandelion (*Leontodon autumnale*) and yellow daisy (*Rudbeckia hirta*) and others. The flowers of *Rudbeckia hirta*, when affected with the yellows, have a green color. The speaker stated that aster yellows has been transmitted experimentally to more than

70 different species of plants. Curly top of beets has also been transmitted to many plants, but is confined to the western part of this country. Aster yellows occurs in all parts of the U. S.

Peach yellows has been known for 100 years, and resembles both aster yellows and curly top of beets, but although it has been much studied, little definite is known about it. Strawberry yellows is apparently distinct, also witches' brooms of potatoes. The yellows disease of boneset (*Eupatorium perfoliatum*) is apparently distinct from aster yellows. The curly top of beets and aster yellows are transmitted by leaf hoppers: strawberry yellows by an aphid. It is suspected that peach yellows is also transmitted by an insect. A study of peach yellows is beset with many difficulties, among which are the following:

1. Although about 200 kinds of insects are known to visit it, the peach tree has very few insects which are peculiar to it alone. The green peach aphis, the black peach aphis and the tarnished plant bug have been tested to see if they are carriers of the disease, but with negative results.
2. The length of incubation period of the disease makes the problem difficult. It takes at least a year for symptoms to appear.
3. The symptoms are not very distinct in the early stages of the disease.
4. The apparent recovery of diseased trees. If diseased trees are cut down and sprouts appear, these may not show the symptoms of yellows for several years.
5. There is difficulty in getting peach seedlings for experiment, for the young seedlings often go into a type of growth which simulates yellows.
6. It is hard to keep diseased material on hand, for the trees die either directly from the disease or from attacks of borers.
7. On account of their large size, it is hard to work with the trees experimentally. They cannot be put in cages like herbaceous plants. The same is the case with the spike disease of sandal.
8. Experiments with cuttings are hindered by the fact that these are dormant in the winter, the season when there is more time for work of this sort.

Dr. Harper suggested the testing of the plant juices chemically to see if in this way there would be any indication as to whether or not the plant had the yellows. Since the peach yellows may also occur on one or more species of herbs which would be easier to work with experimentally, it was suggested that careful comparative surveys be made of the vicinity of peach orchards affected with the yellows in order to see if the disease is not also present on one or more herbaceous plants as well as on the peach itself.

Respectfully submitted,
ARTHUR H. GRAVES,
Secretary.

MEETING OF FEBRUARY 29, 1928

This meeting was held in the Museum Building of the New York Botanical Garden, being called to order at 3:30 p.m. with President Denslow in the chair. The following candidates were unanimously elected to membership in the Club:

Mr. H. M. Romanoff, 360 Lenox Ave., N. Y. C.
Prof. J. J. Thornber, Univ. of Arizona, Tucson, Arizona.

The President spoke of the death of Professor E. S. Burgess, one of the former presidents of the Club. Dr. Howe then read the following minute on his life and work, at the conclusion of which the members of the Club rose in token of respect.

Professor Edward Sandford Burgess

The Torrey Botanical Club records its sense of loss in the death of Professor Edward Sandford Burgess, which occurred on February 23, 1928.

Doctor Burgess was elected a member of the Torrey Botanical Club on April 9, 1895, before his removal from Washington to New York in that year to become Professor of Natural Science in what is now Hunter College. At the beginning of 1897, he was elected Recording Secretary of the Club, a post that he held for six years. The proceedings of the Club, as recorded by him during those years, are models of scientific accuracy, wealth of detail, and beauty of English diction. His two principal botanical publications, the scholarly "History of Pre-Clusian Botany in its Relation to Aster" and "Species and Variations of Biotian Asters; with Discussion of Variability in Aster" constitute volumes 10 and 13 of the Memoirs of the Torrey Botanical Club. Among his other botanical writings, his contributions to Britton and Brown's Illustrated Flora, to Small's Flora of the Southeastern United States, and to the Century Dictionary, are especially well known. During the years 1912 and 1913, Professor Burgess served ably as the Club's president, and was, *ex officio*, a member of the board of Scientific Directors of the New York Botanical Garden.

In the passing of Professor Burgess, members of the Torrey Botanical Club mourn the loss of a widely known scientist, a successful teacher of botany, and a cultured Christian gentleman.

The Secretary announced the sad death, from pneumonia, of Dr. C. H. Farr, which occurred suddenly on Saturday, February 11. Dr. Farr was Associate Professor of Botany at Washington University, St. Louis, and had been a member of the Club since 1914. He received his doctor's degree from Columbia in 1916.

The Secretary presented the report of the Committee composed of the officers of the Club, to suggest a method of election of delegates and representatives of the Club to organizations with which the Club is affiliated, as follows:

"Delegates and representatives on the councils of the New York Academy of Sciences and the American Association for the Advancement of Science, and other organizations with which the Club is now or shall become affiliated, shall be elected at the Annual Meeting in January, the numbers of such delegates and representatives to be elected, depending on the quota regulations of such organizations."

It was the sense of the meeting that this proposition, after being presented and voted upon according to the regular routine, be incorporated as an article of the Constitution.

In regard to the conflict of the meetings at the American Museum on the second Tuesday of the month, with those of the Linnean Society on the same date, the Secretary reported the following proposition of the committee composed of the officers of the Club:

"Unless otherwise determined by the Club, the regular meetings shall be held on the first Tuesday and the third Wednesday of each month from October to May inclusive, except the third Wednesday of December, at such hour and place as the Club may direct."

It was voted by the Club that Article XVIII of the Constitution of the Club entitled "Meetings" be amended by the omission of the part relating to the regular meetings and that this article, worded according to the report of the committee here presented, be framed as a by-law.

The report of the committee on permanent field headquarters for the Club was deferred until a later date.

The scientific part of the program consisted of an illustrated lecture by Mr. A. E. Hitchcock of the Boyce Thompson Institute entitled "Vegetative Propagation."

The lecture dealt primarily with the rooting responses of stem cuttings as influenced by the type of material selected, by the amount and type of leaf surface, and by the nature of the medium. It was pointed out that in some cases roots grow out from a restricted region on the cutting as, for example, the base of a current year's growth, whether or not two year old wood was attached, (*Prunus tomentosa* and *Daphne cneorum*) or from the nodes (*Viburnum opulus* and *Cotoneaster horizontalis*).

Of particular interest was the fact that in many cases better rooting occurred when all the leaves were left on greenwood cuttings than when the lower leaves were removed according to common nursery practice. The attached buried leaves appeared to act as water absorbing and water storage organs for the entire cutting. Under high evaporating conditions, cuttings with lower leaves removed would wilt readily, whereas those with all leaves left on would remain in a turgid condition.

Acid peat moss alone, or mixed with sand, proved in most cases to be superior to sand. Although acid peat moss was injurious to flowering almond, privet, and *Prunus tomentosa* cuttings, this effect was eliminated by partial or complete neutralization of the acid peat moss with powdered calcium carbonate. (Complete neutralization was obtained by adding from 7 to 10 grams of carbonate per liter of peat moss.)

A specific type of root response, characterized by absence of secondary fibrous roots and a marked increase in root diameter, was obtained when the buds were removed from grape cuttings taken in December. Privet cuttings showed a retarded rooting response when similarly treated.

Cuttings of Dahlia (Jersey Beauty and Ide Ver Warner) were found to be influenced by the length of day. Whereas cuttings taken in early fall formed fibrous roots, those taken in late fall formed storage roots or various other types of storage organs at the base of the cutting or along the stem portion. At the same time there was a marked tendency to form flower buds in late fall and early winter instead of producing vegetative growth.

When placed in six hours' extra light (furnished by a single 1000-watt bulb) both cuttings and seedlings showed practically no tendency to form storage roots, and the tops continued to grow without forming flower buds.

Respectfully submitted,
ARTHUR H. GRAVES,
Secretary.

MARCH FIELD MEETING

The field meetings of the Torrey Botanical Club for the 1928 season were begun with an excursion on Sunday, March 4, along Hook Mountain, on the west shore of the Hudson, between Rockland Lake Landing and Haverstraw, under the leadership of Raymond H. Torrey, chairman of the field committee for this year. The party numbered thirty-one of whom six were members of the Torrey Club, the others being members of the Green Mountain Club, Adirondack Mountain Club, Inkowa Outdoor Club, and Paterson Ramblers.

Warm weather earlier in the week had given hopes for signs of spring, but the day of the excursion was below freezing in temperature, and the leaf and flower buds were halting in progress. Skunk cabbage had blossomed a few days before and even the leaves were unfolding but the spathes were again frozen. The leaf and flower buds of the red-berried elder, Sambucus racemosa, which is a common shrub on the steep outer front of Hook Mountain, as on the Palisades of which it is a continuation, were beginning to unfold for its early blooming.

The party found the rocky shore at the foot of the low cliff of red sandstone, below the contact between it and the overlying diabase, interesting for the variety of glacial boulders, representing northern New York and New England formations. One of the horizontal partings of the sandstone displayed what appeared to be the casts of marine worm burrows. A historical feature was the landing place of Major John André to meet Benedict Arnold, in the plot for the delivery of West Point.